

Remarks

Claims 1-32 are pending in the application. Reconsideration is respectfully requested in view of the above changes and the following remarks.

Claim 1 has been amended in order to further clarify that the stepped portion of the second passageway projects into the second passageway. Applicants submit that the invention of claim 1 is not obvious in view of the asserted references. The amendment is made merely to clarify the differences between the invention of Claim 1 and the primary reference, Garcin.

Claims 5-9 have been objected to as being dependent upon a rejected base claim (claim 1), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 5-7 have been rewritten in independent form, and are therefore allowable. Claims 8 and 9, now dependant from allowable independent claim 7, are therefore also allowable.

Examiner indicates that the Preliminary Amendment stated that claims 1-34 were pending. Examiner believes that claims 25-27, 33 and 34 were missing from the application.

The statement in the Preliminary Amendment to the effect that claims "1-34" were pending was incorrect. The correct number of claims at filing, and after the entry of the Preliminary Amendment, was thirty-two, not thirty-four. This is consistent with the claim fee calculation in the Form PTO-1390 filed with the application upon entry into the US national phase. Applicants apologize for the error in misstating the number of claims.

Claims 25-27 were among the claims at the time of US national phase entry. It should be noted that claims 25 and 26 were amended in the international phase as set forth in the Annex to the International Preliminary Examination Report ("IPER"). A copy of the IPER and attached Annex was submitted to the USPTO at the time of US national phase entry.

The claims as set forth in the above Listing of Claims are believed to correctly represent the content of the international application claims as amended during the international phase, and as further amended in the Preliminary Amendment and the herein Amendment. In the preparation of the Preliminary Amendment, obvious word processing errors were introduced into claims 11 and 17. Those errors have been corrected in the above Listing. An obvious word processing error in claim 27, which arose in the international application (the deletion of the

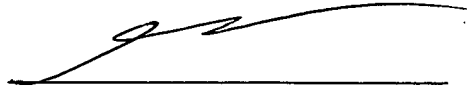
beginning part of claim 27, "A method according to Claim 26 wherein said upper"), has also been corrected.

The Office Action indicates that the Examiner considers Claim 1 to be novel yet obvious in view of the combination of Garcin and Pritchard. Examiner's view is that Pritchard discloses each feature of the present invention of claim 1, save a gas valve. Applicants respectfully disagree. Garcin does not disclose a second passage having a stepped portion. Instead, Garcin has an insert (13) which is located in a second passageway (effectively 5) in order to attempt to produce a vortex via helical grooves (34). Applicants submit that the insert of Garcin cannot be considered to be part of the second passage, and hence Garcin fails to disclose the feature of claim 1 wherein a second passage is "provided with a stepped portion which projects into the second passageway so that a gas vortex is created therethrough". From the language of amended Claim 1 it is clear that the stepped portion is part of the second passage and not an insert placed therein. It also cannot be said that the helical grooves (34) of Garcin project into the passage, as a groove is entirely the opposite of a step. In the present invention, as defined in amended Claim 1, the vortex is generated by presenting a stepped portion which protrudes into the passage and hence the airflow within that passage. The vortex is generated as the air passes over the stepped portion of the passage. As a result, the present invention provides a much simpler and more effective way of creating a vortex than adding an insert with machined helical grooves into the passage. The efficiency of the present invention is also much greater. All of the airflow in Garcin must pass through the three grooves of element (34), thereby creating a large pressure drop across the insert.

Finally, but perhaps most importantly, it is submitted that a person of ordinary skill in the art would not have considered modifying Garcin in the manner suggested by the Examiner in order to arrive at the invention of amended Claim 1. Garcin is an "airless"-type spray gun. It does not use pressurized gas to spray the liquid itself. Rather, Garcin uses air to attempt to control the fan of pressurized liquid sprayed out of the nozzle. The Examiner contends that the skilled person could add a gas valve, such as that shown in Pritchard, to the Garcin apparatus in order to arrive at the present invention. However, as Garcin does not use gas to spray the liquid through the nozzle, there is no need for Garcin to have a gas valve. When spraying is to be stopped, the liquid valve is simply closed. There is no need to shut off any air/gas supply. As

Garcin specifically teaches spraying of liquid without a pressurized air supply passing through the nozzle, one of ordinary skill in the art would view the inclusion of a gas valve in the apparatus of Garcin as redundant. One of ordinary skill in the art would not consider adding the gas valve of Pritchard to the apparatus of Garcin. As a result, amended Claim 1, and the claims depending thereon, are patentable over Garcin in view of Pritchard.

Respectfully submitted,
JAMES LINDSAY et al.



DANIEL A. MONACO
Registration No. 30,480
DRINKER BIDDLE & REATH, LLP.
One Logan Square
18th and Cherry Streets
Philadelphia, PA 19103-6996
(215) 988-3312
(215) 988-2757 – Fax

Attorney for the Applicants